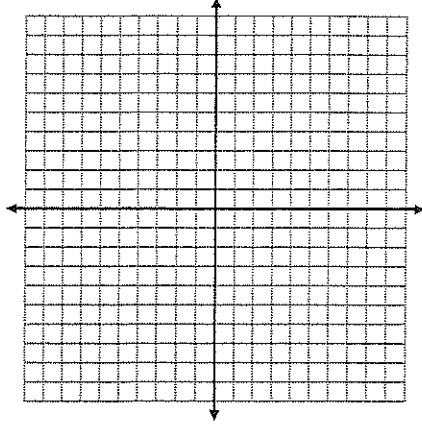


Create a linear system to model each of the following situations. Define your variables. Do not solve.

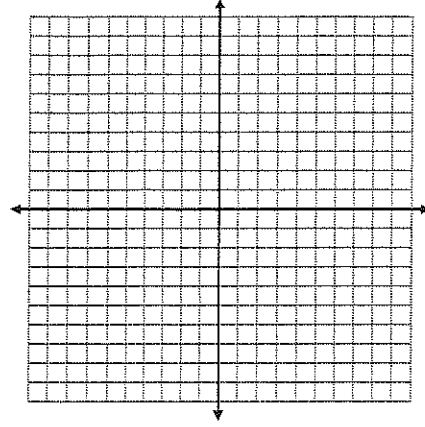
- 1a) The larger of two numbers is three times the smaller number. The sum of the numbers is 60.
- b) Jenny determined that the numbers were 15 and 45. Verify that she is correct.
- 2a) The perimeter of a rectangle is 40 cm. The length is 4 cm longer than the width.
- b) Bob determined that length is 10cm and the width is 6cm. Verify that he is correct.

2. Solve each of the following systems by graphing. Clearly label scale and axes.

- a) $y = \frac{1}{2}x - 3$
 $y = \frac{3}{2}x - 1$
- b) $x + 2y = -4$
 $3x - 4y = -12$



Solution: _____



Solution: _____

3. Solve each of the following systems of equations by substitution.

a) $Y = 3x + 13$
 $2x = y - 9$

b) $x + y = 9$
 $2x + y = 11$

4. Solve each of the following systems of equations by elimination.

a) $x + y = 5$
 $3x - y = 7$

b) $2x + 7y = 33$
 $2x + y = 3$

c) $5x - 2y = 4$
 $3x + y = 9$

d) $\frac{x}{2} + \frac{y}{3} = 1$
 $\frac{x}{4} - \frac{2y}{3} = -1$

5. Define your variables, create a linear system to model the following situation, then **solve** using the method of your choice:

Alex invested \$1500, part at an annual interest rate of 2.5% and the rest at an annual interest rate of 3.5%. After one year, the amount invested at 3.5% had earned \$40 more interest than the amount invested at 2.5%. How much money did Alex invest at each rate?